
**Information and documentation —
Principles and functional requirements
for records in electronic office
environments —**

**Part 1:
Overview and statement of principles**

*Information et documentation — Principes et exigences fonctionnelles
pour les enregistrements dans les environnements électroniques de
bureau —*

Partie 1: Aperçu et déclaration de principes



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

STANDARDSISO.COM : Click to view the full PDF of ISO 16175-1:2010



COPYRIGHT PROTECTED DOCUMENT

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16175-1 was prepared by the International Council on Archives (as International Council on Archives and the Australasian Digital Recordkeeping Initiative *Principles and Functional Requirements for Records in Electronic Office Environments — Module 1: Overview and Statement of Principles*) and was adopted, under a special “fast-track procedure”, by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 11, *Archives/records management*, in parallel with its approval by the ISO member bodies.

ISO 16175 consists of the following parts, under the general title *Information and documentation — Principles and functional requirements for records in electronic office environments*:

- *Part 1: Overview and statement of principles*
- *Part 2: Guidelines and functional requirements for records in electronic office environments*
- *Part 3: Guidelines and functional requirements for records in business systems*

Blank page

STANDARDSISO.COM : Click to view the full PDF of ISO 16175-1:2010



International Council on Archives

Principles and functional requirements for records in digital office environments

Module 1

Overview and statement of principles

STANDARDSISO.COM : Click to view the full PDF of ISO 16175-1:2010



Published by the International Council on Archives. This module was developed by a joint project team formed by members of the International Council on Archives and the Australasian Digital Recordkeeping Initiative.

© International Council on Archives 2008

ISBN: 978-2-918004-00-4

Reproduction by translation or reprinting of the whole or of parts for non-commercial purposes is allowed on condition that due acknowledgement is made.

CONTENTS

1 INTRODUCTION	1
1.1 Scope and purpose	1
1.2 Audience	2
1.3 Related standards	2
1.4 Structure and use	3
2 GOOD PRACTICE: DIGITAL RECORDS AND THE ROLE OF SOFTWARE	4
3 GUIDING PRINCIPLES	
3.1 Records-related principles	5
3.2 Systems-related principles	6
4 IMPLEMENTATION ISSUES	7
4.1 Components of successful digital business information management	7
4.2 Risks and mitigations	9
4.3 Financial and organisational sustainability of digital systems	11
5 OTHER FUNCTIONAL REQUIREMENTS REFERENCED AND EVALUATED	12
6 GLOSSARY	15

STANDARDSISO.COM : Click to view the full PDF of ISO 16175-1:2010

1 INTRODUCTION

A variety of functional specifications for records management software has been developed in the international community. In 2006, the International Council on Archives agreed to develop a harmonised, generic suite of functional requirements for software products for making and keeping records based on existing jurisdiction-specific specifications, and to do so in a manner consistent with the International Standard on Records Management, ISO 15489. It is hoped that this suite of guidelines and functional requirements will assist jurisdictions that are developing, or looking to adopt, their own functional specifications, as well as inform the update and revision of previously existing standards. The application of this set of functional requirements is meant to not only inform the development of electronic records management software, but also to aid in the incorporation of records functionality into generic business information systems software products, as well as specific line-of-business systems. These specifications can also be used by the private sector (for example, multinational corporations) as a stand-alone tool.

Principles and Functional Requirements for Records in Digital Office Environments was sponsored by the International Council on Archives as a project in its Electronic Records and Automation Priority Area, lead by George Mackenzie, Director of the National Archives of Scotland. Adrian Cunningham (National Archives of Australia) was Project Coordinator. Archives New Zealand (Stephen Clarke) acted as the Secretariat for the project. Other participating countries included Cayman Islands (Sonya Sherman), United Kingdom – England and Wales (Richard Blake), Germany (Andrea Hänger and Frank Bischoff), Malaysia (Mahfuzah Yusuf and Azimah Mohd Ali), Netherlands (Hans Hofman), Scotland (Rob Mildren and Steve Bordwell), South Africa (Louisa Venter), Sweden (Göran Kristiansson), France (Olivier de Solan) and the United States (Mark Giguere). The project was also supported by the Australasian Digital Recordkeeping Initiative, a collaborative venture sponsored by the Council of Australasian Archives and Records Authorities. ADRI member Queensland State Archives (Rowena Loo and Anna Morris) contributed to the drafting of Module 3.

1.1 Scope and purpose

The aim of the Principles and Functional Requirements for Records in Digital Office Environments project is to produce globally harmonised principles and functional requirements for software used to create and manage digital records in office environments. There currently exist a number of jurisdiction-specific functional requirements and software specifications. The project's objective is to synthesise this existing work into requirements and guidelines to meet the needs of the international archives, records and information management community and to enable that community to liaise, in a consolidated manner, with the global software industry.

The objectives of the project are to:

- enable better management of records in organisations;

- support the business needs of an organisation by enabling greater effectiveness and efficiency of the operations;
- provide, through wider deployment of automated records functionality, enhanced abilities to support auditing activities;
- improve capabilities to comply with statutory mandates specified in various information-related legislation (for example, data protection and privacy);
- ensure good governance (for example, accountability, transparency and enhanced service delivery) through good management of records;
- increase general awareness of automated records management capabilities via the dissemination of key principles; and
- maximise cross-jurisdictional consistency regarding the articulation of functional requirements for managing records and to enable the global archives, records and information management community to speak with one voice to the software vendor community.

The primary focus of this suite of guidelines and requirements is the creation and management of digital records. While the modules support the long-term preservation of digital records, processes to achieve this are beyond the scope of the project. It is anticipated that the application of the requirements will be global in nature. Therefore, it is impossible, given the wide juridical range of potential applications, to include detailed implementation guidelines. In addition, as the ultimate testing environment for the basis of these modules is yet to be determined, inclusion of specific software test cases or scripts was deemed beyond the scope of the modules.

1.2 Audience

There are four key audiences for these modules:

- software developers and vendors – including non-records management software, so this document can serve as a universal benchmark for records management compliance;
- jurisdictional standard-setters – so these modules can serve as either the baseline for nascent standards development efforts, or as a basis for evaluating the already existing digital records management standards;
- government agencies – so that **all** business functions can be evaluated against, and facilitated via, the incorporation of automated records management capabilities; and
- private-sector organisations – so that they can incorporate automated digital records management into their business operations.

1.3 Related standards

The requirements are aligned with the records management principles in the *International Standard on Information and Documentation – Records Management – Part 1: General*, ISO 15489, which sets out the records management requirements

that also apply when records are captured and managed within electronic records management systems.

The reference metadata standard for these requirements is *ISO 23081 – 1: 2006, Information and Documentation – Records Management Processes – Metadata for Records, Part 1 – Principles*. The high-level metadata element set found in *ISO 23081 – 2: 2009, Information and Documentation – Records Management Processes – Metadata for Records, Part 2 – Conceptual and Implementation Issues* provides the basis for the requirements.

Useful implementation guidance can be found in *ISO/TR 15489 – 2: 2001, Information and Documentation – Records Management – Part 2: Guidelines* and in *ISO/TR 26122:2008 Information and Documentation – Work Process Analysis for Records*.

The requirements are core, high-level and generic requirements for records. Readers seeking guidance in other areas of software functionality not addressed in this document should refer to other more detailed specifications such as US DoD 5015.2 and MoReq2. Readers should also take account of other relevant jurisdiction-specific standards, statements of requirements and specifications.

1.4 Structure and use

The suite of guidelines and functional requirements is organised into three modules:

- *Module 1: Overview and Statement of Principles*: background information, organisation, fundamental principles and additional context;
- *Module 2: Guidelines and Functional Requirements for Records in Digital Office Environments*: a global high-level statement of core and optional requirements, including application guidelines and a compliance checklist; and
- *Module 3: Guidelines and Functional Requirements for Records in Business Systems*: guidelines and generic core and optional functional requirements for records in business systems.

Module 2 is intended for use by organisations seeking to implement dedicated electronic records management systems. It is meant to be read in conjunction with Module 1.

Module 3 is intended for use by organisations wishing to incorporate records functionality into business systems. It is meant to be read in conjunction with Module 1.

Several non-mutually exclusive use scenarios are presented below to exemplify how these modules might be used:

- Reviewing records functionality in existing software – an organisation could use these modules as a checklist to establish which required and desirable records management functions are present in deployed, non-records management software.

- Integrating electronic records management software into a business system – an organisation could use Module 3 to selectively incorporate specific records management functionality into existing business systems.
- Using a design specification for in-house software development – an organisation's IT staff could use Module 3 during their software design and testing documentation of software development efforts.
- Evaluating software considered for purchase – an organisation could use Module 2 as a basis for evaluating and comparing capabilities of commercial, off-the-shelf electronic records management software.
- Procuring, deploying and configuring electronic records management software – an organisation could use Module 2 to form the basis of a functional requirements statement in formulating a request for proposal for electronic records management software procurement and implementation. The requirements presented in these modules may be tailored to suit the individual requirements of organisations, depending on their business needs.
- Designing/re-designing software products during software enhancement cycles – software developers could use Modules 2 and/or 3 as a checklist of potential functionalities that may warrant consideration and/or inclusion in upcoming planned releases of established software products (not necessarily limited to digital records management software products).
- Developing jurisdiction-specific specifications and standards – an organisation could use these modules as either the basis of its own juridical digital records management specification or as a comparative resource when considering the revision of existing local digital records management standards. Jurisdiction-specific requirements may be added to the generic requirements presented in these modules.

2 GOOD PRACTICE: DIGITAL RECORDS AND THE ROLE OF SOFTWARE

As organisations introduce new technologies and new methods for undertaking work, older methods and procedures for controlling records may become less effective. In many organisations, valuable records are kept in centralised databases or shared directories. Alternatively, and **not** mutually exclusively, they may be widely distributed and stored on the decentralised hard drives of individuals' personal computers or in the so-called 'cloud' of third party-controlled Web-based services and facilities. Further complicating the situation, in either of these scenarios not all of the stored information may constitute records.

In either case, measures needed for integrity and authenticity may be overlooked and the digital records may not be available, understandable and usable to the organisation or the relevant archival institution.

Organisations that already rely on digital records to conduct and document business, or that are interested in eliminating paper records from their systems, are seeking

solutions to issues of authenticity, management and retention of digital records. The decisions that organisations make today about the capability of their information systems, the organisation and structure of their information resources, and the policies and practices for managing records in the digital environment will have a significant impact on the types of strategies and methods that archival institutions can employ to ensure long-term preservation of records with archival value.

Because the issues of archival management, especially in the digital environment, are closely linked to the design of systems and the establishment of new information policies, archivists have been driven to examine a broader set of records management issues in order to carry out the archival function in the digital environment. Software provides business process owners, records managers and archivists with substantial means of complying with the practice of good digital records management.

3 GUIDING PRINCIPLES

Successful organisations need information systems for making, keeping and using authentic evidence (that is, records) of business activity to meet their business needs and legal obligations. In the digital environment, the development and implementation of such systems should both be driven by the organisation's business needs and informed by the following principles:

3.1 Records-related principles

1 Digital business information has to be actively managed and reliably maintained as authentic evidence of business activity.

As business processes become more completely automated, the digital information generated by such activities may serve as the only evidence of specific transactions or decisions. Maintenance of this evidence in the form of fixed records is necessary for operational viability and accountability of the organisation. This involves identifying a set of digital information that will serve as the record.

2 Business information has to be linked to its business context through the use of metadata.

In order for information to have the capability of functioning as a record, it is necessary to augment that information with additional data (that is, metadata) that places it in the context of the business operations and computing environment in which it was created. In the case of line-of-business systems accomplishing uniform transactions, this context is derived from the system and its documentation. In other systems, however, such contextual information must be appended to the record as it is necessary to provide the record with sufficient longevity for interpretation and to maximise its value and utility as evidence of business activity.

3 Business information has to be kept and must remain accessible to authorised users for as long as required.

Design and deployment of business information software must ensure that

records can be searched for, retrieved and rendered in accessible formats and media for as long as is required for business and legal purposes. In this context, organisations should avoid the misuse of digital rights management technology and encryption, which may result in records either being destroyed when they should be retained or may render records unreadable.

4 Business information has to be able to be disposed of in a managed, systematic and auditable way.

A hallmark of appropriate records management is the retention and appropriate disposition of records generated by business processes according to specified rules. Systems need to be able to dispose of records in a systematic, auditable and accountable way in line with operational and legal requirements.

3.2 Systems-related principles

5 Systems should support good business information management as an organic part of the business process.

Although it is not necessarily appreciated as such, good records management practices are an integral part of any business process. When automating any business process, one should always evaluate the advisability of simultaneous integration of records management software.

6 Systems for capturing and managing business information should rely on standardised¹ metadata as an active, dynamic and integral part of the processes for making and managing records.

Automated records solutions offer powerful capabilities to access and attach standardised contextual information, via standardised vocabularies and taxonomies, to record content at different times during the life of the record.

7 Systems should ensure interoperability across platforms and domains and over time.

Digital evidence, in the form of records, often has operational or juridical requirements for persistence over periods of time that may exceed the lifespan of the hardware or software that created it. As such, record information must be able to be presented in a manner that is understood and able to be modified, if necessary, for migration to other technology platforms.

8 Systems should rely as far as possible on open standards and technological neutrality.

Many software products that create or manage records are developed using proprietary implementations. Hardware or software dependencies can have adverse effects on access and preservation of record material in the long term. Use of open standards ameliorates these technological dependencies.

9 Systems should have the capacity for bulk import and export using open formats.

Digital records resulting from a business process and managed by records

¹ 'Standardised' may refer to an agreed organisational metadata schema or to the adoption/adaptation of a jurisdictional, national or international metadata standard.

software may involve hardware or software dependencies. Records software should ideally incorporate capabilities to remove these dependencies via support for bulk re-formatting as part of ingest or export capability or, at a minimum, via non-proprietary encoding of record metadata.

10 Systems must maintain business information in a secure environment.

For security purposes, systems automating a business process often incorporate safeguards that limit which actions particular individuals can take with digital information (for example, viewing, printing, editing, copying or transmitting). Systems must not allow unauthorised modifications to any records (including metadata), and where authorised modifications are performed, they must be fully documented.

11 As much metadata as possible should be system generated.

Users are typically unwilling to interrupt their workflow more than three times in the accomplishment of tasks ancillary to executing the primary activity. It may be impractical and/or unnecessary to expect end-users to supply much of the metadata. Systems should be designed and implemented in a manner that allows automatic population of record metadata fields.

12 It should be as easy as possible for users to create/capture records of business activity.

It is necessary to design systems/software that automate records management in a way, ideally, that makes such activity largely 'invisible' to the end-users.

4 IMPLEMENTATION ISSUES

4.1 Components of successful digital business information management

Good software is only one component of successful digital business information management in organisations. Other components include:

- **Policy frameworks** – in addition to deploying software with records functionality, it is necessary to conduct an analysis of existing information management and security policies and laws to address areas where policy revision may need to occur due to gaps in software capabilities. This includes policies relating to records responsibilities for different categories of employees, records retention and disposal. Associated with the policy frameworks that guide and support good business information management software may be tools such as classification schemes and metadata models.
- **Business process analysis** – it is a preferred practice that process analysis should ideally precede any IT deployment. This includes identifying, articulating and potentially reallocating roles and responsibilities.
- **Project management** – any IT deployment requires careful planning and monitoring across a series of discrete stages. Project management techniques are powerful tools that provide both temporal and fiscal accountability for such efforts.

- **Change management** – deployment of automation within an organisation changes not only the manner in which business processes are accomplished, but the roles and responsibilities of end-users of the system. Care must be taken to adequately prepare the human component of any IT deployment for these changes. Failures in the implementation of records software often result primarily from shortcomings in change management rather than from any shortcomings in the technology.
- **Risk management** – Business records contain information that may be business-critical. Therefore, the decision to automate records management should be informed by an analysis of risks associated with an analysis of alternatives that are formulated as part of the business case. Ongoing post-implementation risk assessment should be incorporated into the organisation's overall risk management framework.
- **Sustainability** – development and maintenance of automated systems generally straddle organisations' budgeting cycles. When automating the management of records, care must be taken, as part of the development of a business case for the automation effort, to provide for the ongoing viability, operations and maintenance of the system.
- **Capability development** – software automation requires organisations to develop or enhance the technical capabilities of affected line staff, as well as others in the organisation, who in some cases may have no familiarity with the technology. Care must be taken to develop these capabilities, as well as the technical capabilities of the organisation necessary to support and maintain automation efforts.
- **Quality management** – deployment of automated solutions requires the development within an organisation of the capability to evaluate and accept software performance according to a variety of criteria. Additionally, criteria related to the impact of software deployment to a business process must be developed and evaluated.
- **Configuration management** – it is necessary to ensure that the software not only has the necessary records capabilities, but that the capabilities are configured correctly and in such a way that enables it to operate appropriately in an organisation's IT infrastructure.
- **Corporate culture** – it is vital that the culture of the organisation reinforces the value and importance of good management of records and that it is something that is a standard expectation of all employees. Such expectations need to be regularly articulated by the chief executive through line management channels.

4.2 Risks and mitigations²

Risks typically associated with records software deployments fall into many categories. Some of these include:

- **software selection risks** – **not** making an appropriate determination, from a range of commercial off-the-shelf products, of which product is best suited for deployment in an organisation;
- **software development risks** – experiencing difficulties related to dependence on software vendors or developers, including delays in releases of the software or inability of the vendor to be able to diagnose and fix software problems;
- **technical compatibility risks** – inadequately accounting for difficulties in integrating the digital records management software into the IT infrastructure of the organisation;
- **communication risks** – inability to effectively communicate progress and/or issues regarding the deployment to end-users or management;
- **documentation risks** – inability to implement adequate programmatic management of records surrounding software deployment efforts;
- **project management risks** – inability to appropriately track schedules or associated resource expenditures can threaten the overall stability of a project;
- **training risks** – ineffective training on new software solutions can engender difficulties in end-user acceptance of new technologies;
- **risks associated with initial declines in productivity** – until end-users become familiar with new automated business processes, overall productivity may initially suffer due to the introduction of software innovations;
- **staff turnover risks** – changes in either senior management championing, or in the responsibilities of key personnel implementing, a software deployment can have an adverse effect on the overall project;
- **scalability risks** – the extent to which software may need to ‘scale up’ to organisation-wide deployment needs to be considered and planned for at an early stage in the project; and
- **organisational change** – business environments often change significantly during the development or life of a records or business system. These changes may include the size, structure, work processes, functions and mandates of the organisation itself.

² Adapted from S Asbury *How to Implement a Successful AM/FM Pilot Project* and State of Michigan, *Records Management Application Pilot Project: Final Report for National Historical Publications and Records Commission Grant #2000-05*, <http://www.archives.gov/records-mgmt/policy/pilot-guidance.html#3.1.6>

Any organisation deploying software should acknowledge that some prudent risk-taking is necessary when it comes to adopting new technology and changing business processes. One means of mitigating the risks associated with such deployments is to mount a pilot deployment in a section of the organisation before expanding use of the software enterprise-wide.

To minimise the risks associated with a pilot launch, the project team should:

- establish clear performance objectives and evaluation criteria;
- involve and continually encourage pilot project participants to use the system;
- perform prototype work sessions with the software before customising it;
- finalise system design;
- develop quality acceptance methodology;
- expand the pilot through incremental roll-out to other areas of the organisation and inclusion of other record formats; and
- assure that the pilot's requirements are measurable and clearly understood by participants.

Enumerating problems that the project team is likely to encounter, and identifying possible ways in which to avoid or promptly address those situations, will minimise disruptions during the pilot. To better prepare for these eventualities:

- a review of similar projects will help to identify potential problems that may be encountered during a digital records management pilot; and
- conducting pre-planning brainstorming exercises with the project team can help anticipate the challenges ahead.

For each potential problem, develop a contingency plan. This best-management practice will increase the governance body's confidence in the team's ability to successfully implement digital records management organisation-wide. The following illustrate successful strategies for dealing with frequently encountered problems:

- Organisations often encounter resistance to changing work processes as digital records management is introduced. Many organisations find that introducing newly hired employees, at the beginning of their employment, to the importance of good records management is the best strategy for conquering resistance to change regarding digital records management.
- Ensure a version of the software will be up and running for use by the project pilot team before roll-out to the first group of pilot participants. Selecting individuals to train and work with the software during this pre-pilot phase will develop a cadre of relatively sophisticated users who can liaise with the pilot project participants. When the quality of this pre-pilot phase is deemed acceptable, you can formally launch your digital records management pilot.
- Managing users' expectations throughout the pilot will minimise the risk of pilot failure. This can be achieved, in part, through user training and constant communication with pilot project participants. Establishing communication

vehicles for the rest of your organisation (for example, an organisation-wide view of your pilot project website or online newsletter), keeping staff apprised of the progress being made *vis-a-vis* digital records management, reminds people that the project is ongoing. This will make deployment in their area easier if the solution is adopted organisation-wide.

4.3 Financial and organisational sustainability of digital systems

Each organizational and juridical environment likely has established processes designed to ensure the financial and organisational stability of any capital investment. Although potentially conceptually over-simplified, the totality of analyses comprising a business case can be thought of as the collective means by which an organisation ensures this stability in the case of an IT investment, such as records software.

In its simplest form, a business case articulates a variety of analyses that substantiate an acquisition proposal for the expenditure of an organisation's capital in accordance with its capital asset strategy and inventory control of such investments. In the case of records software acquisition, such a business case might consist of:

- a summary of the benefits of good records management, outlining how it enables: business efficiency; good governance; legal compliance; protection of the rights and entitlements of the organization, its staff and clients; and retention of and access to corporate memory;
- **acquisition strategy** – summary of the funding requirement for project stages (including into future fiscal years);
- **program management** – detailing program management team membership and responsibilities;
- **enterprise architecture** – delineation of how a particular software acquisition relates to other existing and planned IT components within an organisation;
- **analysis of alternatives** – describing alternatives that were considered, and lifecycle costs and returns on investments associated with each;
- **risk management** – description of the major risks for the selected alternative, indicating the probability of occurrence, impact and mitigation strategies;
- **performance goals** – articulating which of the organisation's strategic goals are supported by the proposed deployment, inclusive of existing baseline measures and resulting performance improvements according to specific proposed performance metrics;
- **project management** – presentation of detailed work breakdown structures delineating accomplishments and the cost of attaining major project milestones; and
- **change management** – for line-of-business and records staff.

5 OTHER FUNCTIONAL REQUIREMENTS REFERENCED AND EVALUATED

The aim of this project is to harmonise multiple existing jurisdiction-specific digital records software specifications in a manner that complies with the general requirements set forth in the *International Standard on Records Management, ISO 15489, Parts 1 and 2* (2001), and the *International Standard on Records Management Processes – Metadata for Records, Part 1 – Principles and Part 2 – Conceptual and Implementation Issues, ISO 23081* (2006 and 2009). The jurisdiction-specific functional requirements considered in preparing these modules are as follows:

Archives New Zealand

Digital Recordkeeping Systems Standard, June 2005

<http://continuum.archives.govt.nz/files/file/standards/s5.pdf>

Bundesministerium des Innern, Germany

DOMEA Concept Requirement Catalogue 2.0, June 2005

http://www.verwaltung-innovativ.de/nn_1007684/SharedDocs/Publikationen/DE/domea_konzept_requirements_catalogue,templateId=raw,property=publicationFile.pdf/domea_konzept_requirements_catalogue.pdf

Cornwell Management Consultants plc

(for the European Commission Interchange of Documentation between Administrations Programme)

Model Requirements for the Management of Records, March 2001

<http://www.cornwell.co.uk/edrm/moreq.asp#moreqdownload>

Department of Defense, United States

Design Criteria Standard for Records Management Software Applications, DoD 5015.2-STD, June 2002

<http://jitic.fhu.disa.mil/recmgt/p50152s2.pdf>

Department of Defense, United States

Design Criteria Standard for Electronic Records Management Software Applications, DoD 5015.2-STD Version 3, April 2007

<http://jitic.fhu.disa.mil/recmgt/p50152stdapr07.pdf>

DLM Forum Working Group for the Development of MoReq

Scoping Report for the Development of the Model Requirements for the Management of Electronic Records, February 2006

European Commission

Model Requirements for the Management of Electronic Records Update and Extension, 2008, (MoReq2 Specification)

<http://www.moreq2.eu/moreq2>

Indiana University

Requirements for Electronic Records Management Systems, 2002

<http://www.indiana.edu/~libarch/ER/requirementsforrk.doc>

International Council on Archives

Authenticity of Electronic Records, ICA Study 13-1, November 2002